



0369-L-11/1  
19 June 2014

# Test report

FlatFix FUSION DAKSTEUN 100-7010





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<b>Date of order</b>	30 January 2014
<b>Project number</b>	0369-L-11/1
<b>Author</b>	K. van Zee
<b>Subject</b>	determination of plasticizer migration

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# 1 Introduction

By order of Esdec B.V., Kiwa BDA Testing B.V. has determined the possible degradation of a PVC roof waterproofing sheet by a **FlatFix FUSION DAKSTEUN 100-7010**.

On 4 February 2014 the samples, provided by Mr J. de Vogel of Esdec B.V., have been received at Kiwa BDA Testing B.V. for the purpose of testing.

On the samples the following data were found.

## Description

### **Sample 369 A**

- Product : FlatFix FUSION DAKSTEUN
- Manufacturer : Esdec B.V.
- Product name : FlatFix FUSION DAKSTEUN 100-7010

### **Roof waterproofing sheet**

- Product : PVC roof waterproofing sheet
- Manufacturer : Aabo Trading Company B.V.
- Product name : Flag

See annex I for photos of the delivered sample and further package data.

## 2 Investigation

The investigation has been performed by placing the FUSION DAKSTEUN on top of the PVC roof waterproofing sheet. On top of the support a load has been applied of 12,5 kPa. This test specimen has been stored for 12 weeks at 70 °C according EN 1296:2000 – Flexible sheets for waterproofing – Bitumen, plastic and rubber sheets for roofing – Method of artificial ageing by long term exposure to elevated temperature. Also an unloaded test specimen has been stored under these conditions for 12 weeks.

The determination of the plasticizer content has been performed on an initial sample, a sample that has been thermally aged for 12 weeks at 70 °C and a sample that has been thermally aged for 12 weeks at 70 °C in contact with the polypropylene support.

The determination of the plasticizer content has been performed according to ISO 6427:2013 - Plastics — Determination of matter extractable by organic solvents (conventional methods).

The test samples have been reduced to small pieces (< 0,5 mm).

The extraction has been performed using diethyl ether at the following operating conditions according to table 1 of this standard:

- equipment : Soxhlet extractor with glass-filter crucible
- volume of solvent : 150 ml
- extraction time : 8 h
- number of syphonings : 20 per hour

The glass-filter crucibles with the extracted test specimens have been dried at 105 °C till constant mass in an oven with fresh air circulation ( $\Delta \leq 0,1\%$  (*m/m*) /  $\Delta \leq 0,1$  g).

The investigation has been performed in the period from week 7 up to and including week 21, 2014.



### 3 Results

**Table 1 – Plasticizer content, initial**

Test specimen	Massa before extraction [g]	Mass after extraction [g]	Plasticizer content [% (m/m)]
1	3,0683	2,1132	31,13
2	3,5964	2,4674	31,39
<b>Mean</b>	-	-	<b>31,3</b>

**Table 2 – Plasticizer content, after 12 weeks of thermal ageing at 70 °C**

Test specimen	Massa before extraction [g]	Mass after extraction [g]	Plasticizer content [% (m/m)]
1	3,1362	2,1529	31,35
2	3,1063	2,1321	31,36
<b>Mean</b>	-	-	<b>31,4</b>

**Table 3 – Plasticizer content, after 12 weeks of thermal ageing at 70 °C and in contact with FlatFix FUSION DAKSTEUN 100-7010**

Test specimen	Massa before extraction [g]	Mass after extraction [g]	Plasticizer content [% (m/m)]
1	3,2776	2,2780	30,50
2	3,2054	2,2306	30,41
<b>Mean</b>	-	-	<b>30,5</b>

**Remark:**

The results are only related to the investigated samples, products and/or systems. Kiwa BDA Testing B.V. is not liable for interpretations or conclusions that are made in consequence of the results obtained. If sampling was not performed by Kiwa BDA Testing B.V., no judgement can be given with regard to the origin and representativeness of the samples.

Gorinchem, 19 June 2014  
The laboratory



K. van Zee  
manager

Kiwa BDA Testing B.V.



C.W. van der Meijden MSc  
technical director

# I Photos of the delivered sample and further package data

Photo 1

DAKSTEUN

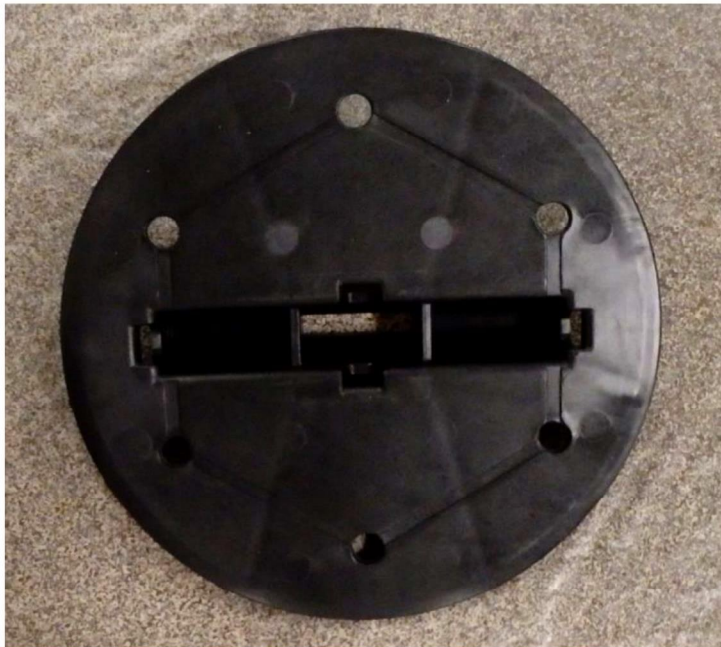


Photo 2

DAKSTEUN



**Photo 3**  
PVC roof water-  
proofings sheet.



**Photo 4**  
PVC roof water-  
proofings sheet.





**Aflever adres**

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Deventer : 30 januari 2014  
Ordernummer : 1410229  
Pakbonnummer : 1450246  
Uw referentie : PVC dakbaan

**Pakbon**

Aantal	Eenheid	Art. nr.	Omschrijving	Order	Backorder
1		92	2 m2 PVC dakbaan AABO 2 x VOET	1	0
		Netto gewicht	0,00 Kg	Volume	0,00 m3

*2Chme 2014.02.04*

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